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AUTHOR von Destinon, Mark
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ABSTRACT

Chicano student dropout and persistence is discussed in terms of the theories of Tinto and Astin on student integration and involvement. An overview of each theory is presented with references to Chicano student retention, and a review of the literature on Chicano students is provided. The studies reviewed here identified Chicano student characteristics corresponding closely to those variables influencing attrition that were hypothesized by Tinto. The literature does not provide a clear picture of how these forces combine. However, toward that end, a composite is provided of the social and academic integration factors that influence Chicano student persistence. Each topical area in the composite is followed by references to the studies illustrating its importance. The topical areas in the composite are: academic integration, academic preparation, support services, faculty/student interaction, social integration, commitments/expectations, family support, family attitude toward education, parents' education and income, finances, and gender differences. Contains 120 references. (KM)

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CHICANO STUDENTS: APPLYING TINTO'S AND ASTIN'S THEORIES

Mark von Destinon
Research Associate
Office of the Vice President for Student Affairs
University of Arizona
Tucson, Arizona

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ABSTRACT

Chicano Student dropout and persistence is approached through an examination of the theories of Tinto and Astin on student integration and involvement. An overview of each theory is presented with references to Chicano student retention. A review of the literature on Chicano students is included and composites of the social and academic integration factors influencing Chicano student persistence are presented.

Chicano Students:

Applying Tinto and Astin's Theories

The issue of student retention and persistence is of great importance to higher education today. Enrollment patterns and educational economics have created an urgency for institutions to evaluate what has become known as their "school holding power" (Houston, 1987). Only with the possession of this knowledge can their faculty and staff find effective ways to maximize a student's chances for persistence. Many institutions have responded to the reduced student pool by attempting to increase enrollment among non traditional groups such as high risk students and minorities. Increasing enrollment means not only attracting new students but retaining those currently attending. Reducing attrition thus contributes to student persistence.

The National Center for Higher Education Management Systems has identified four student types resulting from enrollment decisions: the *persister*, who continues enrollment without interruption; the *stop-out*, who leaves the institution for a period of time and later returns; the *attainer*, who drops out prior to graduation, but after attaining a particular goal; and the *drop out*, who leaves the institution and does not return at any time to the same institution (Lenning, Beal, and Sauer, 1980). Regrettably there has been little success studying students who transfer or return to a different school after a period of years. Due to the financial impact of these decisions on the institution, the preponderance of research has focused on those who leave. Research is needed on the decisions of the persisters, those students who choose to remain enrolled.

Tinto's Theory of Student Departure

Tinto (1975, 1987) proposed a student attrition model drawing from Spady's (1970) work which uses an interpretation of Durkheim's sociological explanation of suicide as the foundation of a model for studying student dropout. Durkheim's theory argues that suicide is tied to the absence of social integration. Tinto and Spady theorize that, just as the lack of social integration can produce suicide in society at large, it can also produce withdrawal from higher education (Tinto & Cullen, 1973). The Tinto model specifies that students entering college bring a variety of attributes which influence educational expectations. These educational expectations represent initial commitments by students and change during the college experience. This change in commitment occurs as a result of student integration into the academic and social systems of the institution. The degree of integration into the academic and social systems on campus determines the students' final commitments toward the institution and completion of their own objectives. These final commitments are a strong influence in dropout and persistence decisions (Tinto, 1975, 1987).

According to the model, students enter a college or university with varying patterns of personal, family, and academic characteristics including initial intentions toward college attendance and personal goals. These intentions, or commitments, are subsequently modified through interactions between the individual and the academic and social systems of the institution. Satisfying and rewarding encounters with the formal and informal academic and social systems of the institution are presumed to lead to greater integration in those systems and to student persistence. Negative interactions and experiences tend to distance the individual from the academic and social

communities of the institution, contributing to the individual's withdrawal from the institution.

Table 1

Tinto's Background Characteristics

- Family Background
  - Socioeconomic Status
  - Parent's Education
  - Quality of Relationship with Family
  - Interest and Expectations of Parents
- Individual Characteristics
  - Student Ability
    - Grade Performance
    - Standardized Test Performance
  - Personality and Attitudinal
- Past Educational Experiences
  - Performance in High School
  - Characteristics of High School
- Goal Commitment
  - Educational Plans
  - Educational Expectations
  - Career Expectations
- Gender

Astin's Theory of Involvement

Studies using Tinto's model to examine student attrition have resulted in the separation of the field of retention research into two areas. One has consistently found academic integration to be more important in affecting retention decisions (Carter, 1986; Chapman & Pascarella, 1983; Hernandez, 1980), while the other has found social integration to be more influential in determining retention (Pascarella, 1985; Horne, 1987; Meyers & Drevlow, 1982). The work of Astin (1984) bridges this gap through a theory of student involvement. Rather than focusing on value judgments regarding the type of

integration, Astin assesses the amount of energy a student devotes to the college experience.

Astin (1984, 1985) has proposed a "theory of involvement" to explain the dynamics of how students develop. According to Astin, his theory is simply stated as "students learn by becoming involved" (1985, p. 133). Astin's theory centers on five postulates: (1) involvement requires the investment of psychological and physical energy in objects; (2) involvement is a continuous concept; (3) involvement has both quantitative and qualitative features; (4) the amount of learning or development is directly proportional to the quality and quantity of involvement; and (5) educational effectiveness of any policy or practice is related to its capacity to induce involvement in students (Astin, 1984, 1985).

This concept represents a middle ground between psychological and sociological explanations of student development. In his earlier work Astin accepted the psychological developmental framework and conceived the student role as essentially passive (Astin, 1970, 1977). In his theory of involvement Astin recognizes the sociological influence by assigning the institutional environment a critical role in that it presents students with experiences, but the extent to which the student becomes involved in the experiences determines development.

Linking Integration and Involvement

Student integration into the academic and social systems of an institution, the nucleus of Tinto's theory, is quite similar to Astin's (1984) concept of "involvement". A comparison of Tinto's Variables of Interaction with the College Environment and Astin's Factors of Environmental Involvement can be seen in Table 2. Tinto's variables are more comprehensive than Astin's

factors, yet both cover related areas. The investment of physical and psychological energy postulated by Astin is implied in Tinto's concept of "integration". Tinto's more explicit theoretical structure, compared to that given by Astin (1984), offers significant opportunities both to researchers who wish to study college student persistence or attrition and to administrators seeking to design programs to influence retention.

Table 2

Tinto's Variables of Interaction with College Environment	Astin's Factors of Environmental Involvement
Academic Integration	Academic Involvement
Intellectual Development	
Grade Performance	Cognitive Development
Social Integration	
Interaction with Faculty & Staff	Honors Program Involvement
Faculty Support	
Collective Affiliation	Student Faculty Interaction
Friendship	
Support Groups/Subcultures	Place of Residence
Extra Curricular Activities	
Informal Peer Group Associations	Athletic Involvement
Semi-Formal Extra Curricular Activities	Involvement in Student Government

Research on Academic Persistence

Tinto's Model

Tinto's conceptualization of dropout behavior has precipitated an extensive body of research. Over 100 studies utilizing the Tinto model to examine aspects of the college experience have been identified. Although Tinto focused on the college attrition process, his model has been successfully employed to investigate student outcomes other than dropout. Only those studies dealing with predicting dropout/persistence are reviewed here.

The most exhaustive tests of Tinto's model have been conducted by Pascarella, Terenzini and their colleagues. In a series of eleven studies beginning in 1977, Pascarella and Terenzini have assessed the predictive validity of the model in several manners and contexts. The relationships of Tinto's model, especially the concepts of social and academic integration, to withdrawal in the freshman year, were tested in the first six studies (Pascarella & Terenzini, 1977, 1979a, 1979b, 1980; Terenzini and Pascarella, 1977, 1978) using data collected at a single residential university from three entering freshmen classes. These data were responses to fixed choice questionnaires administered to random samples of entering freshmen, sometimes at several points in the freshman year. The analytic methods were various multivariate statistical techniques (e.g., stepwise multiple regression, discriminant analysis and multiple analysis of variance) which provided statistical control and permitted statistical interactions to be examined. From these studies, Terenzini and Pascarella (1980) concluded Tinto's model was "a conceptually useful framework for thinking about the dynamics of

dropping out" (p. 279), but further testing, involving more precise specification of the variables and relations suggested by the model, and taking account of the complexity of their relations, was needed.

The seventh study in the series (Terenzini, Lorang and Pascarella, 1981) repeated the procedures used in the sixth study with a sample from a different university and confirmed the generalizability of Tinto's model to another institution. In the last four studies (Pascarella and Chapman, 1983; Pascarella and Terenzini, 1983; Pascarella, Duby and Iverson, 1983; Terenzini, Pascarella, Theophilides and Lorang, 1983) path analysis was used in comprehensive tests of Tinto's model. The tests were comprehensive in that "all of Tinto's salient constructs were represented and their influence estimated in explanatory causal sequence" (Pascarella and Terenzini, 1983, p. 216). The model was tested separately for males and females and for different institutional types (residential, four-year, commuter four-year, and commuter two-year institutions; a private residential, a public residential, and a commuter university). The paths were found to vary depending on gender of students and type of institution. In general, results of each of the studies were consistent with the concepts in Tinto's model. The four studies accounted for 11% to 19.5% of the variation in measured persistence behaviors. One study (Pascarella, et al., 1983) was able to account for 28.2% of the variation by including the variable of "intention to withdraw," which was not specified in Tinto's original model.

Subsequent research on factors influencing attrition not specified in Tinto's model has also been conducted. Chapman and Pascarella in their 1983 study of eleven institutions investigated patterns of student social and academic integration among size and type of institution and found that

different college types were characterized by different patterns of social and academic integration. Related to Chapman and Pascarella's findings were those of Carter (1986), who added the variable of curricular integration to the Tinto model. Carter found curricular integration to be an important contributor to the dropout/persistence behavior of students in her study of sophomore, junior, and senior students at a large midwestern university.

Cultural background of students was another variable not specified in Tinto's model. In a 1986 study of schools participating in the Cooperative Institutional Research Program, Pascarella found that social integration was a strong predictor of persistence for Black students, but not for the White students. Horne (1987), in her study of freshmen at a large southwestern university used the Tinto model to examine the interaction of academic, social and commitment variables. Her findings suggested that personality and cultural variables should be added to the model to better understand their impact.

Although Tinto suggested the influence of variables related to family education and socioeconomic background, the relationship between first and second generation college going students was not specified. Brooks and Mancini-Bilson (1982) studied the generation factor on attrition and found that 45% of dropout behavior resulted from first and second generation college students with the greatest portion, 32%, occurring in first generation students.

These studies indicated that the Tinto model does help to explain persistence behaviors. However, the studies revealed that there are concepts not fully accounted for which contribute to the dropout/persistence decision.

Of greatest interest to a study of minority persistence are the findings relating to the influence of cultural background in the Tinto model.

Studies Applying Tinto's Model to Hispanics

Although the earliest research on the Tinto model utilized a sample that included an ethnically diverse student body, the minority population were Blacks. Few studies which have been done with the model included significant numbers of other minorities in their samples. Those studies applying Tinto's concepts to Hispanics have been among the most recent performed.

Hernandez (1980) applied Tinto's model to Mexican-American students in an examination of the use of support services by adult Mexican-American students at three Texas community colleges. Findings indicated that there were differences between male and female perceptions of the services and concluded that diverse support services were needed to meet these needs.

Meyers and Drevlow (1982) used Tinto's model to study participation in a freshman summer program to ease transition from high school to the University of California at San Diego. They found that the integration and subsequent participation of the summer participants in the fall quarter was greater than that of non participants, indicating the need for similar programs.

Holding closest in design to Tinto's original theory, Nora (1987) examined the dropout of Chicano students at three Texas Community Colleges. Testing only those variables suggested by Tinto, Nora found that academic and social integration did not have significant direct effects upon retention (p. 49). Nora also found that there was no causal path between the variables of social integration and academic integration. The most significant direct effects on retention in the study were the institutional and goal commitments of the students. These findings differed from those of other researchers

(Fox, 1986; Pascarella, Terenzini, and Wolfle, 1985) and suggested that other unspecified variables may be of greater importance to the Chicano population.

Only one study has examined the Tinto model with qualitative data. In a study of Hispanics, primarily Puerto Ricans, at the City University of New York, Garcia (1987) applied Tinto's model to the characteristics of the sample and then followed up with interviews. Findings of the statistical component of the sample indicated that the model did not provide a satisfactory explanation for persistence or withdrawal of the Hispanic students. The qualitative portion of the study indicated that pressures caused by circumstances external to the college environment (e.g., family and financial responsibilities) were the major determinants of dropout.

These studies indicated that, although the Tinto model was good for organizing data contributing to the persistence and withdrawal of students, its variables appeared not to reflect the Chicano experience. What is needed is research on the needs, concerns, and experiences of Chicanos in higher education in order to specify variables contributing to their persistence/withdrawal.

Studies on Hispanic and Chicano Students

The following literature review focuses on correlates of academic success and persistence for Chicano college students. For ease of understanding, findings of the studies are reported in topical areas corresponding closely to those hypothesized by Tinto and Astin. However, these correlates are so interwoven that it is, at times, difficult to separate them. One example of this confounding relationship is the work of Astin (1975) who found that most dropout prone freshmen were those with poor high school academic records, low aspirations, poor study habits, and relatively

uneducated parents. Just as Astin's factors are inter-connected in causal relationships not fully understood, so are the correlates that follow.

Women

Olivas (1978, p. 44) cited a 1977 National Center for Education Statistics report showing rates of withdrawal for Hispanic women from four year colleges that were lower than all other groups. Several other studies have identified differences between Chicanos and Chicanas that suggest their educational experiences may be quite different (Munoz, 1986). Munoz notes "...cultural background, specifically sex role socialization, provides significant discontinuity for the Chicana in higher education." Thus, it is evident that there are differential rates of attrition for Mexican-American women and men. Conflicting with the NCES study (Olivas, 1978) were those of Astin (1982), the U.S. Bureau of the Census (1987), and the U.S. Commission on Civil Rights (1974). Astin (1982) found that being a woman was negatively related to persistence among Chicanas, while the Bureau of the Census (1987) found the rate of college completion for males of Mexican origin to be almost twice as high as that of Mexican origin women, yet still low compared to that of other groups. The U.S. Commission on Civil Rights (1974) reported that only 15% of all Mexican-American women who entered college completed a degree, as compared to 32 % of the Mexican-American men.

Mexican-American women experience intense role conflict when aspiring to education and careers, rather than the traditional roles of wife and mother (Keefe, Padilla, & Carlos, 1978). It is, therefore, not enough to report data regarding the Chicano experience in higher education without consideration for the Chicana experience. Throughout the following paragraphs gender differences are noted.

Academic Preparation

There appears to be wide variation in the academic preparation of Chicano students. Largely, the modest preparation of Chicanos results from their low socioeconomic status (Ballesteros, 1986; Mestre, 1986). The fact that Hispanics are more likely to come from disadvantaged families, living in low income areas with poor public support for the schools results in their being less prepared (Ortiz, 1986). Amato (1980), however, found ability, rather than socioeconomic status, to be the major determinant of placement in a college preparatory curriculum. A study by Duran (1983) showed that predicting which Hispanic students were potentially the most successful presented special problems.

The University of California (1975) found that inferior and inadequate education received in the public schools negatively influenced the access and persistence of Chicano students in the university system. Astin and Burciaga (1981) in their national sample of Chicano students drawn from the Cooperative Institutional Research Program (CIRP) suggested precollegiate education was one of six critical areas to focus on in order to increase persistence. A student's academic performance in secondary school, as measured by the student's grade point average or class rank, was a significant predictor of undergraduate grades and persistence (Commission on the Higher Education of Minorities, 1982). Astin (1982) found that among student characteristics, high school grades were the most consistent and substantial predictors of persistence for Chicanos.

In their study of Chicana students Chacon, Camarena, Gonzalez, & Strover (1982) found that most of their university samples self reported 'A' and 'B' grades in high school. Yet, 78% of the private university students and 71% of

the University of California students said their high school preparation was average or poor. The students' perceptions of how well their high schools had prepared them for college seemed incongruent with their self reported achievements. This, possibly, resulted from the students evaluating their preparation based on experiential and/or environmental factors, rather than simply grades. Similarly, within a small sample of Chicanas from southern California, 90% reported receiving an average or poor high school education (Casas & Ponterotto, 1984).

Lack of preparation showed up most clearly in the Chicano's limited facility with the higher education bureaucracy. Leon (1975) presented anecdotal evidence of students who withdrew from college because "they lack knowledge concerning the mundane, everyday world of the university" (p. 7). Freshman Chicano students reported difficulties with "getting ready" concepts (i.e., expectations, role models, etc.) prior to matriculation (Attinasi, 1986).

These factors combine to present a picture of academic preparation that includes more than good grades or content knowledge. The findings in these studies suggest that when considering the experience of the Chicano student it is also important to consider the size and nature of the institution as well as the socioeconomic and experiential background of the student.

Academic Integration

The academic integration of Chicanos into the institutional environments is another area that has been studied. Generally academic integration is defined as a good grade point average. However, Chacon, et al. (1982) noted that academic performance is difficult to separate from the effects of lower socioeconomic status. Other data suggest the grade point average may not be

the best indicator of integration. Although Trujillo (1981) found low grades to be the most significant academic factor affecting the attrition of Mexican-American students, Salas (1981) found that two thirds of the dropouts studied had grade point averages above 2.0 and were eligible to continue in school. This contrast suggests there may be more salient measures of academic integration than grades.

Arce (1978) cited the lack of representation of Chicano history and culture in the curriculum as a barrier to the academic integration of Chicano students. As Haro (1983) observed with regard to curriculum:

> Of importance to Chicanos because it influences access and attrition, the nature and quality of the curriculum will, to a great degree, determine the nature and quality of the Chicano experience in higher education. If curriculum and instruction do not integrate Chicano history, culture, language, and literature, then higher education will possess less appeal and compelling interest to students who might consider post-secondary education (p. 48).

That Chicano education is affected by curriculum at all levels was one of five findings in a New Mexico study (Zarate, 1983). Lopez, et al. (1976) suggested provision of funds for research related to the Chicano experience, and the establishment of Chicano studies programs and departments, could play a major role in the participation of Chicanos in higher education. Indeed, Salas (1981) found that Hispanic students participating in ethnic studies programs were more likely to persist and succeed academically in school.

Duran (1983) found that Chicanos were slightly more likely than white students to give academic reasons for dropping out of school. Overall their academic performance was frequently stronger than that of Black students, yet still weaker than that of White students (Astin, 1982). However, in

comparison to Anglos, Chicanos reported lower academic self esteem which contributed to their decisions to leave the university (Leon, 1975).

The results of these studies indicate a definition of academic integration based on a relationship between Chicano students and the institution. These studies show that academic integration is more than just grade point average. The inclusion of Chicano history and culture in the curriculum may contribute to persistence, and perhaps even to the development of more positive self images for Chicano students.

Support Services

Availability and use of support services is related to academic integration. Ballesteros (1986) found that other factors were not as influential as the school environment in determining achievement. Minorities are faced with overwhelming problems of coping with an institutional structure which is often insensitive to their needs (Baeza, 1980; Cross, 1974; de los Santos, 1980; Reyes, 1977). A survey of 311 minority educators indicated that a feeling of institutional indifference to minority students was a major barrier in their college experience (CHEM, 1982).

Lack of programs responsive to the needs of Chicano students has been found to be a barrier to their persistence, both in the University of California system (University of California, 1975), and throughout the United States (Astin and Burciaga, 1981). Programs designed to provide emotional support and an advocacy role were seen as desirable by Vasquez (1982) in her study of the participation of Mexican-American women. Chacon, et al. (1982) surveyed six California institutions and found that there were half as many minority-oriented support services available as general services. Minority students at those institutions were as likely to use minority services as they

were those services available to all students. They perceived most academic services they had used as helpful, although dissatisfaction was registered in regard to inadequate information about available services. Students also complained of receiving active discouragement from pursuing non traditional educational goals (e.g., sciences). Chacon, et al. (1982) also recommended specifically that minority women should be made to feel at home in minority service programs.

In their study, Chicanos in Higher Education, Lopez, et al. (1976) stated that there was a need to fund the resources of counseling services, academic support programs, and instructional programs centered on Chicanos. This need was echoed by McKinnon's (1980) report on students from New Mexico and by Rendon (1980, 1982, 1986) in her studies of Chicano community college students in Texas and in her recommendations for Hispanic enrollment in Michigan (1981). Ballesteros (1986) also recommended that remediation, tutoring, and counseling be provided at the college level.

The availability of support services appears to be an important factor in the persistence of Chicanos. Although several studies have indicated the importance of services specifically for Chicanos, the Chacon, et al (1982) study suggested that the availability of campus services for all students also helped Chicano persistence. One noteworthy finding of that study tied together academic and social integration; students integrated into informal Chicano networks were most likely to make use of formal academic support services.

Faculty/Student Interaction

Factors influencing Hispanic participation in higher education include the shortage of Hispanic personnel to serve as catalysts for change and role

models (Olivas, 1978). Lopez, et al. (1976) identified greater representation of Chicano faculty and administrators in colleges and universities as requisite to the access and presence of Chicano students in higher education. Arce (1978) also found that the lack of Chicano faculty was a barrier to the academic and social integration of Chicano students. Madrazo-Peterson & Rodriguez (1978) reported that Chicanos frequently felt Anglo-American faculty and administrators were insensitive to the needs of non-Anglo students. Because of differences in language, culture, experience, and socialization, Anglo faculty are not prepared nor able to give the support and encouragement necessary to Chicano students (Baeza, 1980; Reyes, 1977).

Munoz (1986) found that Chicanos reported difficulty in asking for academic assistance. "Seeking help with academic problems," "not meeting teacher's expectations," and "approaching a faculty or staff member for academic assistance" all generated extremely high stress for Chicano students in the Munoz study (p. 142). Teacher interest ranked high as a factor influencing good college grades by high achieving Chicanos in Amodeo and Martin's (1982) sample, while perceived treatment by teachers was a contributory factor to the attrition of Chicana students at the University of Southern Colorado (Gutierrez, 1981). Rendon (1986), reporting on the findings of a study of Texas community colleges, found faculty/student contact to be one of the most important determinants of student retention.

Studies like these illustrate the need for not only faculty contact, but for contact specifically with Chicano role models. The contribution of a faculty member who takes an interest in students cannot be under-estimated and for Chicano students the influence, especially that of a Chicano faculty member, appears even greater. The data appear to indicate that even the

presence of Hispanic faculty has a significant positive influence on Chicano students.

Social Integration

Alienation, a feeling of not belonging, was found to be an important personal problem in Munoz's (1986) study of undergraduate Chicano stress. Vasquez (1982) found that the alienation and isolation Chicanos experience because of a lack of "fit" and support in the college environment discouraged participation. Madrazo-Peterson and Rodriguez (1978) reported that Chicanos experienced less social isolation and less racism than Blacks. However, at Colorado State University Cortese (1985) found that aspects of the social environment (i.e., alienation, acculturation, cultural tradition, and the social message) were possible causal factors for the non participation of Chicanos. Attinasi (1986) found the perceptions of the social and physical environment at Arizona State University by freshmen Chicanos to be a negative factor in persistence decisions.

The Stanford sponsored study conducted by Chacon, et al. (1982) compared social isolates (students with one friend or none) with socially integrated students (with two or more friends). They found that the isolates were older and working more hours per week in paid positions. Socially integrated students were making the most progress in their academic programs. When social integration was used as a predictor of program progress in a multivariate analysis, its influence was weakened by hours worked per week and freedom from academic difficulty.

These studies show the definition of social integration exceeds the concept of ethnic integration. It refers to not only the integration resultant from an ethnically diverse campus, but also to the affiliation and

sense of belonging a student develops through interactions with students of similar backgrounds.

Commitments/Expectations

The correlates of goal commitments were difficult to ascertain for Chicano college students because they appeared to be so inter-woven into other issues. The Coleman, et al. (1966) study of secondary students found that, relative to other racial and ethnic minorities, Mexican-Americans ranked high in their determination to stay in school. Studies have shown education is highly valued by Hispanics (Coleman, et al., 1966; Grebler, Moore, & Guzman, 1970). Because of the value placed on education Verdugo (1986) suggested that the educational system was partly responsible for the poor educational condition of Hispanics. His suggestion echoed the finding of the United States Commission on Civil Rights (1974) that the "...systematic failure of the educational process...not only ignores the educational needs of the Chicano students, but also suppresses their culture and stifles their hopes and ambitions." (p. 176).

A thirteen year old study reported by Webster (1985) indicated Mexican-American students were twice as likely as Blacks or Anglos to plan to obtain an associate's degree or no degree at all. This study probably did not control for the over-representation of Chicanos in two year colleges that award only associate degrees or vocational certificates. Ballesteros (1986) suggested that the low socioeconomic status of Hispanics socializes them to aspire to low status occupations. Hispanics may choose occupational programs without awareness that they are reducing their future occupational and academic options.

Chacon, et al. (1982) found that 53% of the private university sample and 51% of the University of California sample were planning to obtain a graduate degree. Predictably, only 29% of the community college group had such plans. Inconsistent with these findings is a community college study of low income East Los Angeles Chicanos who had higher expectations to go to college and obtain a degree than a comparable sample of Anglos (Leyva, 1975). The aspirations of these students as reported by Leyva seem unrealistic considering their socioeconomic backgrounds and preparation. The contribution of Leyva's work presents an inconsistent picture of goal commitment and degree aspirations of Chicanos at the community college level. It appears, however, that Chicano students not at two year colleges have goal aspirations consistent with their abilities, and that these aspirations may predict persistence (Ballesteros, 1986).

Duran (1983) reviewed data on the college achievement of Hispanics. He found that measures of college achievement may be inadequate for Hispanic students and suggested that personal growth characteristics be incorporated into the existing definition of achievement to better reflect Hispanic student progress.

This research indicated that the commitments of Chicanos to higher education and their aspirations were tied closely to their economic status. Chicano students chose occupational programs which may result in greater immediate earnings, but reduced occupational and academic options in the future. Those who do enroll beyond the two year level have higher aspirations, yet economic reality may effect their ability to persist.

Family Support

A consistent finding in all studies is the importance of the family unit to Chicanos. Parents appear to be the primary influence on the choice of a high school academic program (NCES, 1980). There is no evidence to support a contention that the family dynamic operates any differently at the college level. Munoz (1986) reported family stress arises from the fact that Chicano students often have more family responsibilities than do Anglo students. Murillo (1971) claimed responding to family needs was a priority of the Chicano, "If his help is required by the family, he may temporarily forego job, school, or any other activity that might prevent him from meeting his family obligations" (p. 105).

A select group of high achieving Chicanos cited parental moral support as the single most important factor contributing to their high achievement (Amodeo & Martin, 1982). This was true regardless of the level of parental education. Chacon, et al. (1982) found that Mexican-American males were more likely to get such support than females. Although few parents were actively opposed to their children attending college, there was less encouragement for women students. Vasquez (1982) found that encouragement from the mother was important to motivation and positive self-expectations of Chicanas. This may suggest that support from the same gender parent is important for women.

The family is a double edged razor for the Chicanos. Emotional support and understanding from the family has a strong positive influence upon Chicano student persistence. However, if that support is withdrawn or threatened by family needs there is a direct negative influence on the student's ability to persist.

Family Attitude Toward Education

Webster (1985) reported a study showing lower socioeconomic status parents had more positive attitudes toward higher education than their children. The younger generation had less confidence in education as a means of upward mobility. In a review of another study Webster reported that, because some parents do not want their children to leave home, they encourage them, instead, to work and not attend college. Those families with fewer financial resources may be more likely to hold this attitude because the children are needed to contribute to the family income.

Family socioeconomic status is seen as one reason why Chicano college students were twice as likely as Blacks to choose a school because it is close to home (Webster, 1985). Important factors reported by Hispanics in their choice to attend a two year institution were low cost and proximity to home (Crossland, 1971; Olivas, 1978; Institute for the Study of Educational Policy, 1980). This introduces the role of residence to the persistence equation. Cabrera (1964) was the first to examine the distance from the student's permanent residence to the institution. Studies have demonstrated that living away from home increases persistence while living at home with parents decreases persistence (Chickering, 1972). The place of residence has become recognized as an important aspect of the dropout model, especially among commuter institutions.

Another factor appears to be the length of time the Mexican-American family has been in the United States. Featherman and Hauser (1978) found that the process by which family background affects achievement varied by generational status. Studies show there to be at least three aspects to generational status effect on the family attitude. Alston (1985) reported

that those families who have passed several generations in this country may be more likely to hold positive values of higher education. More recent immigrant generations, excluding the immigrants themselves, may be more concerned with immediate economic survival than with the long term gains resulting from higher education (Alston, 1985). Ortiz, however, found that the "immigrant parents provide more encouragement and hold higher expectations for their children than do non immigrant parents" (Ortiz, 1986, p. 43).

Family socioeconomic status, the place of a student's residence while attending college and the number of generations the family has been in the country all have an effect on the family attitude towards education. Some families see education as a key to greater earnings and encourage college attendance. Others need immediate financial assistance from children which prohibits their college attendance. Those students who live away from home have a greater chance of persisting in school. The dynamics of these aspects of family attitude are not fully understood. They offer several combinations, with each other and with other factors, which require further research.

Parents' Education and Income

The influence of parents' education and income on the academic performance and persistence of Chicano students is critical. Munoz (1986) found that Chicano students reported more stress than Anglos on financial items like "contributing money to help the family" and "parents' willingness to provide personal income information for financial aid applications" (p. 142). Hispanic students cannot expect financial assistance from their families; in many cases they send money home to their parents (Baeza, 1980; de los Santos, 1980; NCES, 1980). Nielsen (1986) discussed "pullout" students,

those who leave school because of "economic opportunities," and the need to contribute to the family finances.

The relationship of parental income and college persistence is important to the extent that:

> parental income alone predicts persistence and achievement for all four minority groups, but is unrelated to college performance of Anglos. This finding implies that although financial aid (especially grants) has a positive impact on both access and persistence, it cannot compensate for all the negative effects of poverty on the minority students academic achievement (CHEM, 1982, p. 20).

Socioeconomic status was the key variable determining academic achievement in a 1982 study of Mexican-Americans graduating from the University of California at Los Angeles (Rodriguez, 1982). The Report of the President's Task Force on Chicanos and the University of California (1975) also found the low socioeconomic status of Chicano families to be a major obstacle to enrollment.

Family socioeconomic status, largely the result of parent education and occupation, has been found to be positively associated with progress through college and with less academic difficulties (Chacon, et al., 1982). The sample of students at California institutions in the Chacon, et al. study came from community colleges, the university system, and included a private university. The sample contained few Chicanos whose parents had a college education. Students making the most progress were at the private institution and had parents with the highest mean years of education. Students making the least progress were those enrolled in two year colleges and whose parents had the least years of education. Wolfle and Lichtman (1981) reported the influence of the father's education to be nearly twice that exhibited among Anglos, while the influence of the mother's education was negligible.

Understandably, the higher the parent's level of education, the higher the children will aspire. Also connected to educational level is socioeconomic status. The greater the education, the greater the family income. This suggests that students who persist are those from the higher socioeconomic backgrounds. Their families will have an overall higher level of education and commensurate income.

Finances

Finances were the most frequently cited problem among Chicano students (Astin & Burciaga, 1981; California Post-secondary Education Commission, 1977; Chacon, et al., 1982; Lopez, et al., 1976; McKinnon, et al., 1980; Munoz, 1986; NCES, 1977; Salas, 1981; Trujillo, 1981; Vasquez, 1982; and Webster, et al., 1979). Hispanic students consistently cited financial problems -- lack of adequate aid, inability to qualify for aid, needing to borrow from friends and family -- as the number one problem in getting through school (Webster, et al., 1979). In 1977, the California Post-secondary Education Commission viewed a switch in political attention and financial support away from minorities as one reason why Chicanos did not have full access to higher education. This change in attention to minority rights has national impact as well. Funding the college experience is, perhaps, the critical factor in whether Chicanos will be successful in achieving adequate and equitable representation in higher education (Lopez, et al., 1976).

The relation of finances to persistence is demonstrated in the impact of employment on staying in school. Trujillo (1981) found that off campus employment was the most significant negative financial factor influencing attrition in his study of Mexican-American students at the University of Southern Colorado. The Commission on the Higher Education for Minorities

(CHEM, 1982) found that students holding full-time jobs while in college were less likely to persist. However, the Commission also found that part time work, especially on campus, contributed to persistence (CHEM, 1982). Olivas (1986) also found that on campus work, the College Work Study program, improved retention.

In another study Chicanos reported as many as 31 hours of paid employment per week, while Chicanas averaged 26 hours (Chacon, et al., 1982). In addition to these demands, women faced several hours per week of unpaid domestic labor. Those women who put in many hours of domestic work reported the most stress. They also reported the least contact with peers for friendship and support. As discussed earlier, peer contacts provide an important networking function for access to formal support services. These women were at high risk for dropping out because they did not have access to or information about support services. In predicting progress in the academic program, both paid work hours and domestic work hours were strong negative predictors for women. For men, only paid work hours were predictive of progress. The importance of this finding may be mitigated by the students in the sample studied being older than the traditional college age.

There is evidence that different types of financial aid contribute to persistence (Astin, 1975). The type of financial aid awarded is important as grants and scholarships have been shown to have a positive effect on persistence, while the effects of loans are mixed (CHEM, 1982). Munoz (1986) found that receiving financial aid did not reduce stress for Chicano students; instead they reported more stress regardless of the type of financial aid package they received.

The financial situation of Chicano students appears a critical determinant of persistence. The data suggests that those Chicanos who must work outside of school because their parents cannot contribute to their education or because the student must contribute to the family's support are less likely to remain in school until graduation.

Summary

The studies reviewed here identified Chicano student characteristics corresponding closely to those variables influencing attrition hypothesized by Tinto (1975). Chicano students reported being poorly prepared by their high schools for college. Services provided by the institution and interactions with the faculty were two areas which help to contribute to the persistence of Chicano students. The social integration of Chicanos into the institutional environment contributed to their persistence by providing a sense of belonging. Those students enrolled at institutions beyond the two year level have high educational aspirations which influence their commitment to higher education. Family support, as well as the level of education of the parents and their income, were important contributors to persistence. Finances emerged as critical in the persistence decision, primarily due to the low socioeconomic status of the Chicano population. Throughout the review gender differences were important, suggesting the educational experience was different for males and females. Although there was not a clear picture of how these forces combine, the poor persistence rates of Chicano students require that an attempt be made to understand them. Towards that goal, understanding, Tables 3 and 4 present composites of the social and acacemic integration factors that influence Chicano student persistence. Each topical area is followed by a reference to the study(ies) illustrating its importance.

Table 3

ACADEMIC INTEGRATION ASPECTS

Academic Integration

- Grades (Trujillo, 1981; Salas, 1981)
- Socioeconomic Status (Chacon, 1982)
- Presence of Chicano Studies in Curriculum (Arce, 1978; Haro, 1983; Zarate, 1983; Salas, 1981)
- Low Academic Self Esteem (Leon, 1975)
- Chicano Student Relationship to Institution (Attinasi, 1986)

Academic Preparation

- Student/Institution 'Fit' (Ortiz, 1986; Ballesteros, 1986; Mestre, 1986)
- Ability-- Preparation for Topics (Amato, 1980)
- Grades (Astin, 1982)
- Student Perception of Academic Preparation (Chacon, 1982; Casas, 1984)
- Bureaucracy (Leon, 1975)
- Getting ready (Attinasi, 1986)

Support Services

- Availability of Services (U of CA, 1975; Astin & Burciaga, 1981)
- Type of support services (Vasquez, 1982; Chacon, 1982, Lopez, 1976, McKinnon, 1980; Rendon, 1980, 1981; Ballesteros, 1986)
- Use of support services (Chacon, 1982)
- Informal networks (Chacon, 1982)

Faculty/Student Interaction

- Lack of Hispanic Personnel (Olivas, 1978, Lopez, 1976, Arce, 1978)
- Lack of Cultural Understanding (Madrazo-Peterson & Rodriguez, 1978; Baeza, 1980; Reyes, 1977)
- Difficulty in Asking for Assistance (Munoz, 1986)
- Teacher Interest and Treatment (Amodeo & Martin, 1982; Gutierrez, 1981)

Table 4

SOCIAL INTEGRATION ASPECTS

Social Integration
- Lack of "fit" or alienation (Munoz, 1986; Vasquez, 1982; Madrazo-Peterson & Rodriques, 1978)
- Aspects of the Social Environment (Cortese, 1985)
- Perceptions of Social and Physical Environment (Attinasi, 1986)
- Need for Employment (Chacon, 1982)

Commitments/Expectations
- Value on Education (Verdugo, 1986; Coleman, 1966; Grebler, Moore & Guzman, 1970)
- Determination (Coleman, 1966)
- Occupational/Vocational/Community College Thoughts (Webster, 1985)
- Graduate Degree Plans (Chacon, 1982)
- Definition of Achievement--should include personal growth (Duran, 1986)

Family Support
- Parental influence on college choice (NCES, 1980)
- Family responsibilities (Munoz, 1986; Murillo, 1971)
- Parental encouragement (Amodeo & Martin, 1982)

Family Attitude Toward Education
- Socioeconomic status (Webster, 1985)
- College Choice (Crossland, 1971; Olivas, 1979; ISEP, 1980)
- Residence (Cabrera, 1964; Chickering, 1972)
- Length of time family in the U.S. (Alston, 1985; Webster, 1985; Ortiz, 1986)

Parents Education and Income
- Parents education level (father's vs mother's) (Wolfle & Lichtman, 1981)
- Parents employment level (Munoz, 1986; Baeza, 1980; de los Santos, 1980; NCES, 1980; Nielsen, 1986)

Finances (all)

Gender Differences
- parental encouragement (Chacon, 1982; Vasquez, 1982)

A synthesis of the results of research on the attrition/persistence of Hispanic and Chicano students shows a combination of personal and institutional factors which resemble those variables hypothesized in Tinto's model to affect the dropout decision. The Tinto model, as modified by Astin's theory of involvement, suggests that student social and academic integration, i.e., how involved they become in those aspects of the institution, influences persistence. In order to better understand the persistence decisions of Chicano students studies are needed which examine the integration and involvement aspects of their higher education experience with consideration for the major factors influencing the persistence of these students.

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